

CLAIMS

What is claimed is:

1. Method of delivering data from a data input to a data output within a system,
5 comprising
selecting a system performance parameter to be optimized,
receiving at the data input a sequence of discrete data words,
determining an optimum mode of delivery of the data words to the data output
so as to optimize the selected performance parameter, and
10 delivering the data words from the data input to the data output in the
determined optimum mode.
2. Method according to claim 1, wherein determining the optimum mode of
delivery includes determining at least one of an optimum time and sequence of delivery of
15 the data words.
3. Method according to claim 1, further comprising reordering the data words
into a desired sequence before delivering the data words from the data input to the data
output.
20
4. Method of delivering data from a data input to a data output within a system,
comprising
selecting a system performance parameter to be optimized,
receiving at the data input a sequence of discrete data words,
25 determining an optimum sequence and time of the delivery of the data words
to the data output so as to optimize the selected performance parameter, and
delivering the data words from the data input to the data output in the
determined optimum sequence and time.
- 30 5. Method of delivering data from a data input to a data output within a system,
comprising
receiving at the data input a sequence of discrete data words, and
delivering each data word to the data output without regard to sequence and as
soon as possible after the data word is received at the data input, whereby latency is
35 minimized.

6. Method according to claim 5, further comprising arranging the data words into a preselected sequence before delivering the data words to the data output.

5 7. Method of delivering data from a data input to a data output within a system, comprising
receiving at the data input a sequence of discrete data words,
holding at least one of the data words first received at the data input in storage
until additional data words comprising the data packet are received at the data input,
10 delivering the data words from storage to the data output as the additional data words comprising the data packet are received at the data input with minimal time gaps between said data words, and
delivering the additional data words substantially directly from the data input to the data output as soon as possible after the additional data words are received at the data
15 input, whereby bandwidth is maximized.

8. Method according to claim 7, further comprising arranging the data words into a preselected sequence before delivering the data words to the data output.

20 9. Method of delivering data from a data input to a data output within a system, comprising
receiving at the data input a sequence of discrete data words comprising a data packet,
holding each of the data words received in storage until all data words
25 comprising the data packet have been received, and
delivering the data words from storage to the data output in the preselected sequence and with substantially no time gaps between the data words, whereby safety is maximized.

30 10. Method according to claim 7, further comprising arranging the data words into a preselected sequence before delivering the data words from storage to the data output.

11. Method of delivering data from a data input to a data output within a system having a plurality of data channels, comprising
35 selecting a system performance parameter to be optimized for each channel,

receiving at the data input of each channel a sequence of discrete data words,
determining an optimum mode of delivery of the data words to the data output
so as to optimize the selected performance parameter for the associated channel, and
delivering the data words from the data input to the data output in the
5 determined optimum mode for each channel.

12. Method according to claim 11, wherein the mode of delivery is different for at
least two of the plurality of data channels.

10 13. Method of delivering data from a data input to a data output within a system
having a plurality of data sources, comprising
selecting a system performance parameter to be optimized for each source,
receiving at the data input a sequence of discrete data words from each source,
determining an optimum mode of delivery of the data words to the data output
15 so as to optimize the selected performance parameter for the associated source, and
delivering the data words from the data input to the data output in the
determined optimum mode for each source.

14. Method according to claim 13, wherein the mode of delivery is different for at
20 least two of the plurality of data sources.

15. Apparatus for delivering data from a data input to a data output within a
system to optimize a selected system parameter, comprising
a data input for receiving a sequence of discrete data words,
25 a data output to which data are delivered, and
at least one data storage element intermediate the data input and data output
for storing individual data words for a determined time before delivery to the data output, and
at least one path for selectably delivering data to the data output by bypassing said data
storage element.

30 16. Apparatus according to claim 15, wherein the data storage element is a
register.